United States Patent [19]

Guzowski

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[54] **HOT MELT ANTI-SURGE DISPENSING SYSTEM**

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[52] **U.S. Cl.** **222/330;** 222/334; 222/383

[58] **Field of Search** ..... 222/334, 330, 331, 375, 222/373, 380, 383, 385, 146 HE

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,578,102	12/1951	Stephenson et al.	222/334 X
3,412,903	11/1968	Van Riper, Jr. et al.	222/146
3,976,229	8/1976	Jackson	222/146
4,028,473	6/1977	Conti	222/334 X

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[57] **ABSTRACT**

The invention pertains to a system for dispensing highly viscous materials, such as hot melt adhesives, wherein flow surges are eliminated. The material is pumped by an expansible chamber motor operated by compressed air and flow through a dispensing nozzle is controlled by a valve. Air pressure regulators provide a low pressure on the material when no dispensing is occurring, and a higher pressure is imposed upon the air motor during dispensing. Selectivity between air pressures is regulated by an electric switch simultaneously operated with the dispensing nozzle wherein the higher dispensing pressure is imposed on the pump motor only after the nozzle has been opened, thereby preventing material flow surges. If dispensing occurs through a plurality of nozzles communicating with a common pump additional air pressure regulators are provided to increase the pump flow proportional to the amount of material being dispensed to provide uniform dispensing characteristics from each of the dispensing nozzles.

7 Claims, 3 Drawing Figures